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(57)Abstract:

PURPOSE: To control a listening point or listening range by dividing and unitizing an ultrasonic wave transducer array and varying angles of acoustic wave radiation surfaces of respective units individually.

CONSTITUTION: For example, 120 transducers are fitted in a honeycomb shape on a substrate of 130×100mm to manufacture one ultrasonic transducer array unit 2, and an ultrasonic transducer array 3 is constituted by coupling eight rows and six columns of transducer array units 2, i.e. 48 units in total so that angles of respective acoustic wave radiation surfaces are varied individually. The angles of the ultrasonic transducer array units 2 are adjusted individually so that the acoustic wave radiation surface of ultrasonic transducer array 3 is focused, and thus the nearly arcuate recess type ultrasonic transducer array 3 is constituted to make the directivity to a secondary wave sharper and narrow down its listening range as compared with an ultrasonic transducer array having acoustic wave radiation surfaces arranged in a plane.

